

### Specification

The invention relates to a system (and devices) to control the relative humidity in wood frame building walls.

It is common in the method and materials used to construct wood frame building walls, that relatively airtight cavities are created such that natural ventilation of the said cavities is prevented or seriously reduced. Since wood frame building walls are not absolutely watertight, the net result over time is that excess moisture (or humidity) accumulates in the cavities thereby causing mould to form and eventually causing structural damage to the wall itself. Also, present day methods and materials effectively allow these relative humidity related problems to go on undetected for long periods of time. This makes the repairs to the walls more expensive than they would otherwise be if the problem areas could somehow be identified at an earlier stage.

I have found that these disadvantages can be overcome, without seriously affecting the insulation capacity of the wall, by enabling forced air to be circulated through a system of spacers and specially constructed headers that also serve as an integral structural component of the wall itself. The system operates on demand by using relative humidity probes installed in the wall and connecting them to a humidity control mechanism which in turn activates a fan. Also, the system can serve as an early warning to possible defects in the water repellant components of the wall. By connecting a series of warning lights to the probe circuits, the general location of the wall defect can be identified; thus providing an early opportunity to undertake remedial measures to correct same before further damage occurs.

Figures 1 through 5 illustrate the embodiments of the invention.